AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claim 1: (currently amended): A computer-implemented method, comprising ~~computer data signal embodied in a carrier wave for a micromagnetization analysis and used to direct a computer to perform the processes of~~:

receiving an input of a parameter of a micromagnetization vector assigned to a center of a divided microelement of an area to be analyzed, and a parameter of vector potential assigned to a side or node of the microelement;

generating a magnetic field equation for providing an external magnetic field for micromagnetization using the input parameters, and initializing a time;

obtaining a solution of the magnetic field equation;

obtaining a time integral of ~~the LLG~~ Landau Lifshitz Gilbert (LLG) equation using the solution as an external magnetic field for an unstationary LLG equation;

determining whether or not micromagnetization obtained by the time integral satisfies a convergence condition;

correcting the magnetic field equation using the obtained micromagnetization when the convergence condition is not satisfied, and stepwise increasing the time; and

repeating the process of obtaining a solution of the magnetic field equation and subsequent processes.

Claim 2 (currently amended): The ~~signal~~ computer-implemented method according to claim 1, further comprising ~~a process of~~

obtaining a magnetic field using the micromagnetization obtained by the time integral of the LLG equation when the convergence condition is satisfied.

Claim 3 (currently amended): The ~~signal~~ computer-implemented method according to claim 1, wherein

said magnetic field equation is a stationary magnetic field equation using vector potential.

Claim 4 (currently amended): The ~~signal~~ computer-implemented method according to claim 1, wherein

said magnetic field equation is an unstationary magnetic field equation.

Claim 5 (currently amended): The ~~signal~~ computer-implemented method according to claim 1, wherein

in the process of obtaining the time integral of the LLG equation, a product of a difference between micromagnetization vector assigned to a target element and micromagnetization vector

assigned to an adjacent element and an exchange interaction coefficient is set as an exchanged magnetic field by an exchange interaction with the adjacent element.

Claim 6 (canceled).

Claim 7 (currently amended): The ~~signal~~ computer-implemented method according to claim 1, wherein

in the process of obtaining a time integral of the LLG equation, as an exchanged magnetic field for an element contacting a boundary of an element group formed by a plurality of elements, there is set a product of an externally specified one of an exchange interaction coefficient assigned to the boundary and an exchange interaction coefficient assigned to the element group, and a difference between micromagnetization vector assigned to a target element and micromagnetization vector assigned to an adjacent element.

Claim 8 (canceled).

Claim 9 (currently amended): A micromagnetization analyzing apparatus, comprising:

an input unit receiving an input of a parameter of a micromagnetization vector assigned to a center of a divided microelement of an area to be analyzed, and a parameter of vector potential assigned to a side or node of the microelement;

a magnetic field equation generation unit generating a magnetic field equation for providing an external magnetic field for micromagnetization using the input parameters, and initializing a time;

a unit obtaining a solution of the magnetic field equation;

a unit obtaining a time integral of ~~the LLG~~ Landau Lifshitz Gilbert (LLG) equation using the solution as an external magnetic field for an unstationary LLG equation;

a convergence condition determination unit determining whether or not micromagnetization obtained by the time integral satisfies a convergence condition;

a magnetic field equation correction unit correcting the magnetic field equation using the obtained micromagnetization when the convergence condition is not satisfied, and stepwise increasing the time; and

a control unit repeating the operation of said unit obtaining a solution of the magnetic field equation and subsequent units using the corrected magnetic field equation.

Claim 10 (original): The apparatus according to claim 9, further comprising

a magnetic field calculation unit obtaining a magnetic field by micromagnetization using micromagnetization obtained by the time integral of the LLG equation when the convergence condition is satisfied.

Claim 11 (currently amended): A micromagnetization analyzing apparatus, comprising:

input unit means for receiving an input of a parameter of a micromagnetization vector

assigned to a center of a divided microelement of an area to be analyzed, and a parameter of vector potential assigned to a side or node of the microelement;

magnetic field equation generation means for generating a magnetic field equation for providing an external magnetic field for micromagnetization using the input parameters, and initializing a time;

means for obtaining a solution of the magnetic field equation;

means for obtaining a time integral of ~~the LLG~~ Landau Lifshitz Gilbert (LLG) equation using the solution as an external magnetic field for an unstationary LLG equation;

convergence condition determination means for determining whether or not micromagnetization obtained by the time integral satisfies a convergence condition;

magnetic field equation correction means for correcting the magnetic field equation using the obtained micromagnetization when the convergence condition is not satisfied, and stepwise increasing the time; and

control means for repeating the operation of said means obtaining a solution of the magnetic field equation and subsequent means using the corrected magnetic field equation.

Claim 12 (original): The apparatus according to claim 9, wherein

said magnetic field equation is a stationary magnetic field equation using vector potential.

Claim 13 (original): The apparatus according to claim 9, wherein said magnetic field equation is an unstationary magnetic field equation.

Claim 14 (original): The apparatus according to claim 9, wherein the unit obtaining the time integral of the LLG equation sets a product of a difference between micromagnetization vector assigned to a target element and micromagnetization vector assigned to an adjacent element and an exchange interaction coefficient is set as an exchanged magnetic field by an exchange interaction with the adjacent element.

Claim 15 (canceled).

Claim 16 (original): The signal according to claim 9, wherein the unit obtaining the time integral of the LLG equation sets a product of an externally specified one of an exchange interaction coefficient assigned to a boundary of an element group formed by a plurality of elements and an exchange interaction coefficient assigned to the element group, and a difference between micromagnetization vector assigned to a target element and micromagnetization vector assigned to an adjacent element as an exchanged magnetic field for an element contacting the boundary.

Claim 17 (original): The apparatus according to claim 9, wherein

the unit obtaining the time integral of the LLG equation, for an element contacting a boundary of an element group formed by a plurality of elements, sets a value of an exchanged magnetic field by using either an externally received input value of an exchanged magnetic field assigned to the boundary, or an input value of an exchange interaction coefficient which depend on a size of an element and which is multiplied by the different between micromagnetization vector assigned to a target element and micromagnetization vector assigned to an adjacent element to obtain the exchanged magnetic field.

Claim 18: (new): A storage medium having stored thereon a set of instructions for implementing a method, said set of instructions comprising at least one instruction for:

receiving an input of a parameter of a micromagnetization vector assigned to a center of a divided microelement of an area to be analyzed, and a parameter of vector potential assigned to a side or node of the microelement;

generating a magnetic field equation for providing an external magnetic field for micromagnetization using the input parameters, and initializing a time;

obtaining a solution of the magnetic field equation;

obtaining a time integral of Landau Lifshitz Gilbert (LLG) equation using the solution as an external magnetic field for an unstationary Landau Lifshitz Gilbert (LLG) equation;

determining whether or not micromagnetization obtained by the time integral satisfies a

convergence condition;

correcting the magnetic field equation using the obtained micromagnetization when the convergence condition is not satisfied, and stepwise increasing the time; and

repeating the process of obtaining a solution of the magnetic field equation and subsequent processes.

Claim 19 (new): The storage medium of claim 18, said set of instructions further comprising at least one instruction for:

obtaining a magnetic field using the micromagnetization obtained by the time integral of the Landau Lifshitz Gilbert (LLG) equation when the convergence condition is satisfied.

Claim 20 (new): The storage medium of claim 18, wherein

said magnetic field equation is a stationary magnetic field equation using vector potential.

Claim 21 (new): The storage medium of claim 18, wherein

said magnetic field equation is an unstationary magnetic field equation.

Claim 22 (new): The storage medium of claim 18, wherein

in the process of obtaining the time integral of the Landau Lifshitz Gilbert (LLG) equation, a product of a difference between micromagnetization vector assigned to a target element and

micromagnetization vector assigned to an adjacent element and an exchange interaction coefficient is set as an exchanged magnetic field by an exchange interaction with the adjacent element.

Claim 23 (new): The storage medium of claim 18, wherein

in the process of obtaining a time integral of the Landau Lifshitz Gilbert (LLG) equation, as an exchanged magnetic field for an element contacting a boundary of an element group formed by a plurality of elements, there is set a product of an externally specified one of an exchange interaction coefficient assigned to the boundary and an exchange interaction coefficient assigned to the element group, and a difference between micromagnetization vector assigned to a target element and micromagnetization vector assigned to an adjacent element.

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